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ABSTRACT

In 1994, Central Piedmont Community College (CPCC), in North Carolina, conducted a survey of career graduates (i.e., those who had not subsequently enrolled in a four-year college or university) to determine outcomes and assess graduates' satisfaction with the college, comparing findings with outcomes from previous years. Surveys were mailed to 1,763 graduates of curriculum programs from 1991-92 and 1992-93, generating responses from 500, or 28.4% of curriculum graduates from the period, and of whom 361 were classified as career graduates. Survey results for career graduates included the following: (1) 66.7% of respondents were female, 55.4% were 31 years of age or older, and 15.6% were Black; (2) 85.9% indicated that they had reached their self-declared goals; (3) 87.7% were employed, with 87.1% employed 35 or more hours per week; (4) 55.3% held jobs which were directly related to their CPCC programs; (5) the largest group of respondents (19.7%) reported yearly salaries between $20,000 and $24,000; (6) 64.7% were satisfied or very satisfied with their jobs; (7) while most career graduates did not use CPCC services, 18.5% indicated that an instructor helped them find their job; (8) the areas of their education rated highest by graduates were teamwork, critical thinking, and sensitivity to technology; (9) the top-ranked areas related to instruction included quality of instruction, library facilities and materials, availability of instructors, and course content; and (10) compared to past graduates, respondents assigned higher scores to all CPCC service and facility areas. (KP)

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ED 384 370

Central Piedmont Community College

CAREER GRADUATE FOLLOW-UP STUDY 1991-92 & 1992-93

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Planning & Research
September 1994

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Central Piedmont
Community College

CAREER GRADUATE FOLLOW-UP STUDY 1991-92 & 1992-93

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Career Graduate Follow-up Study 1991-92 & 1992-93

Planning & Research

The Planning & Research Office recently completed a graduate follow-up survey. The purposes of this study are: 1) to highlight the research findings concerning the achievement of CPCC graduates and their satisfaction with the College in many important areas, 2) to compare recent graduates' opinions with those of earlier graduates and with 1992-93 current students' opinions of the college, and 3) to address the factors that may affect the overall quality of CPCC and graduate satisfaction.

The CPCC data system maintains student demographic data and academic records. All other information about graduate achievement and opinions about the College were collected directly from graduates. The Planning & Research Office sent the 1,763 curriculum students graduated in the 1991-92 or 1992-93 academic year up to three sets of correspondence, consisting of a questionnaire with a cover letter, a postcard reminder, and a replacement of the questionnaire with yet another cover letter. The survey generated 500 completed questionnaires, representing 28.4 percent of the curriculum graduates. Of the 500 respondents, 361 are career graduates. A career graduate is defined as a graduate who has never enrolled in a 4-year college or university, regardless of program the student attended at CPCC. The career graduate distribution across CPCC program areas is shown as follows.

Program Area	Percent
College transfer	4.4
General Education	9.5
Technical	72.1
Vocational	13.9

A study about CPCC transfer graduates is prepared separately. A more detailed report is available at Planning & Research Office upon request.

1. General Background of Career Graduates

The following table summarizes the demographic background of sampled CPCC career students. Female career graduates account for exactly two thirds of the graduates, a picture very different from transfer graduates whose male-female distribution is nearly 50-50. The survey results show that none of the career graduates is younger than 19 years of age, and 55.4 percen t (30.6%+24.8%) of the career graduates are 31 years of age or older. The survey results also show that Black students account for 15.6 percent of the career graduates, while 8.7 percent of transfer graduates being Black. These statistics indicate that proportionally CPCC graduated more female career students, more black career students, and more older career students than their counterparts in transfer group. (see *Transfer Graduate Follow-up Study, 1991-92 & 1992-93*).

Demographic Summary

GENDER	Percent
Female	66.7
Male	33.3
AGE	**Percent**
< 19	0.0
19-25	28.9
26-30	15.6
31-40	30.6
41+	24.8
ETHNICITY	**Percent**
Black	15.6
American Indian	0.3
Asian	2.4
White	81.6

Each student had a self-declared academic goal and a practical reason for attending the College. The following table shows that 83.1 percent of the career graduates came to CPCC clearly with a 2-year college degree in mind, and 86.0 percent (27.5% + 48.3% + 10.2%) of the graduates enrolled in CPCC for reasons of various job preparations.

GOAL	Percent
Selected courses	1.5
HS diploma/GED	0.4
Six-month certif.	3.4
One-year degree	8.6
2-yr assoc.degree,	83.1
Other	3.0
PRACTICAL REASON	**Percent**
For first job	27.5
For differ. job	48.3
For current job	10.2
Transfer to 4-yr	9.8
Self enrichment	3.0
Others	1.1

2. Achievement of Career Graduates

GPA is used to measure student performance at CPCC. Of the career graduates who responded to the question, 75.2 percent reported GPAs from 3 to 4. The average GPA of all respondents is 3.33. According to CPCC student records, 28.2 percent of the career graduates completed their programs in 8 quarters or less, 35.4 percent finished in 9 to 12 quarters, and 36.4 percent graduated in 13 or more quarters. On the average, it took 10.7 quarters for a typical career graduate to complete his/her program, slightly longer than that for a typical transfer graduate (10.3 quarters).

GPA	Percent
2 < GPA <= 3	24.8
3 < GPA <= 4	75.2
Average GPA: 3.33	

QUARTERS	Percent
8 or less	28.2
9-12	35.4
13 or more	36.4
Average	10.7 Quarters

Self-declared goal achievement is another measure of student success at CPCC. Of 361 career graduates, 85.9 percent reported that they completely achieved goals and another 10.6 percent said they partly achieved their goals.

Goal Achievement	Percent
Completely	85.9
Partly	10.6
Not at all	3.5

For career graduates, achievement is largely reflected in employment status. The survey included several key questions regarding career graduates' employment. The survey results indicate that 87.7 percent of the career graduates are employed and 87.1 percent of employed graduates work full time--35 hours or more each week. Thus, the majority of career graduates apparently to have achieved their employment goals.

Employed	Percent	Hours/week	Percent
Yes	87.7	>= 35 Hours	87.1
No, Seeking	6.7	21-34 Hours	9.9
No, Not Seek	5.6	<= 20 Hours	3.0

To reveal whether or not CPCC career graduates have jobs that require the education they received at CPCC, the survey asked about the education requirement for their jobs. Among those who answered the question, 57.9 percent felt that their jobs require education at the community college level, 34.1 percent considered themselves overqualified, and the rest (8%) of the graduates indicated that their jobs have 'other' education requirements.

Educ. requirement	Percent
None	8.0
High School Diploma	26.1
1-year College Certif.	7.7
College Diploma	7.0
2-year College Degree	43.1
Other	8.0

Considering the general difficulty of finding a job right in a person's major area, a close relation between the jobs and the students' majors at CPCC would indicate a high level of achievement. More than one half (55.3%) of the respondents reported that their jobs are directly related to their CPCC programs and another 27.2 percent considered that their jobs are partly related to their majors. Only 17.5 percent of the graduates explicitly indicated that their jobs are not related to their CPCC programs.

Relationship	Percent
Directly Related	55.3
Somewhat Related	27.2
Not at all Related	17.5

CPCC graduates are employed by different sized companies in many different types of businesses. The businesses that hire the biggest numbers of CPCC graduates, in descending order, are health service, industrial/manufacturing, professional services, hospital services, and government/public services. CPCC graduates are employed in companies of all different sizes, with 34.2 percent in big companies (> 500 employees).

TYPE OF BUSINESS	Percent
Health Services	21.9
Industrial/MFG	10.5
Professional Services	8.3
Hospital Services	7.5
Govt /Public Services	6.4
Retail/Wholesale	3.0
Financial/Insurance	3.0
Transportation	2.8
Utilities	2.5
Construction	1.7
Miscellaneous Services	0.6
Agriculture-Related	0.3
Other or not specified	31.6

Size of companies	Percent
1-10 employees	14.0
11-25 employees	14.3
26-100 employees	17.9
101-500 employees	19.6
> 500 employees	34.2

The survey results on personal income are impressive. Of the groups listed below, graduates reporting an annual salary from $20,000 to $24,999 make up the biggest middle group, accounting for 19.7 percent of the graduates. About 38 percent (16.7%+13.0%+7.0%+1.0%) of the graduates reported earnings more than and 42 percent (10%+13.7%+18.7%) reported earnings less than $20,000-$24,999. This finding is consistent with a report by the NC Department of Community Colleges released earlier (see *The Communicator* June 27, 1994). According to the DCC research report, a typical CPCC graduate in the 25-29 age group earns about $26,000 per year, 15 percent more than an average 4-year college graduate.

Annual Salary	Percent
Less Than $10,000	10.0
$10,000 - $14,999	13.7
$15,000 - $19,999	18.7
$20,000 - $24,999	19.7
$25,000 - $29,999	16.7
$30,000 - $34,999	13.0
$35,000 - $49,999	7.0
$50,000 or above	1.0

Graduate achievement is also reflected in the degree of satisfaction with many aspects of the current job the graduate holds. Of those graduates who expressed their opinions, more than one half are satisfied or very satisfied with the amount of responsibility, working conditions, and training opportunities. Those who are satisfied or very satisfied with salary and promotion potential account for 46.3 percent and 37.1 percent respectively. A portion of the graduates, from 19.4 percent to 34.6 percent, are in between – neither satisfied nor unsatisfied with these aspects. The sample mean of satisfaction on a 5-point scale ranges from 3.00 for promotion potential to 3.83 for responsibility.

JOB ASPECTS	Unsatis. Very Un.	In Betwn	Satisf. Very S.	Mean
Responsibility	6.9%	28.5%	71.5%	3.83
Working conditions	6.6%	26.2%	67.2%	3.80
Training opportunities	21.2%	19.4%	59.4%	3.53
Salary	19.1%	34.6%	46.3%	3.32
Promotion potential	36.1%	26.8%	37.1%	3.00

Note: Calculations of sample means in this table and all following tables do not include missing values.

In combination, 64.7 percent (38.4%+26.3%) of the graduates are satisfied or very satisfied with their jobs overall, while 11.4 percent (7.1%+4.4%) are unsatisfied or very unsatisfied with their jobs. The rest are those whose satisfactions are in-between. The sample average of overall satisfaction is 3.72 in a 5-point scale.

Overall Satisf.	Percent
Very Unsatisfied	7.1
Unsatisfied	4.4
Somewhat Satisfied	23.9
Satisfied	38.4
Very Satisfied	26.3
Average Satisfaction	3.72

To explore if the experience of the graduates at CPCC helped them find a job, the survey asked when the students got their current jobs. The following descriptive statistics indicate that 88.6 percent (33.6%+55.0%) of the career graduates who responded to the question got the current jobs while attending or after finishing their programs at CPCC. This signifies the helpfulness of education at CPCC in finding their current jobs.

When got job	Percent
Before Attending CPCC	11.4
While Attending CPCC	33.6
After Leaving CPCC	55.0

Among those who have not found jobs in their fields, 31 graduates reported that there are few openings in their fields, and 24 indicated that more education is needed to find jobs in their fields. This may reflect changes in some segments of job market that provide fewer job opportunities or require an education level higher than before.

Reason not found job in study field	Count
Few openings in the field	31
More education needed	24
Not spent much time looking	15
Relocation not desirable	6
Do not know how to find a related job	5
Salary too low in major field	5
Family responsibility	5
Career Objective changed	3
Continuing my education	3
Other	12

3. Opinion of Career Graduates about CPCC Services and Facilities

Graduate opinion about CPCC services is a critical part of the survey. Such information helps to evaluate performance or usefulness of each area in meeting career student needs and to reveal the difference education at CPCC made in graduate job performance and rewards.

Did CPCC Job-Related Services Help the Graduates Find Their Jobs?

The graduates were asked who helped them to find their current job. The following table summarizes the answers. The areas or persons are arranged in descending order with the first receiving the most favorable response and the last the least favorable. It is not surprising that personal effort and family/friend's help are important. It is worth emphasizing that CPCC instructors helped 18.3 percent of the graduates. Most career graduates did not use many services provided at CPCC. For instance, 85.9 percent of graduates did not use workshops on interview skills; among those who did use the service the vast majority considered this service much help or some help. In such a case, publicity of the service may be an issue to explore.

Helpers	Much Help	Some Help	Not Help	Not Used	Mean in 3-point scale
Myself	31.0%	5.3%	1.1%	62.6%	2.80
Individual instructors	18.3%	16.6%	2.8%	62.3%	2.41
Family or friends	15.8%	16.1%	2.5%	65.6%	2.39
Internship/ experience	13.3%	7.5%	0.6%	78.6%	2.60
Had job before	8.9%	2.8%	1.9%	86.4%	2.51
CPCC co-op program	6.4%	4.4%	3.9%	85.3%	2.17
Private job placement	6.1%	4.4%	4.2%	85.3%	2.13
Counselors at CPCC	5.5%	7.8%	3.9%	82.8%	2.10
Workshops on interview	5.5%	7.2%	1.4%	85.9%	2.29
CPCC student career cntr	1.9%	3.6%	6.4%	88.1%	1.63

What Benefit Did the Career Graduates Gain from Education Received at CPCC?

A successful program can contribute to improvement on job performance and, hopefully, a promotion for the graduates, although many other factors also influence job performance. This survey directly related education at CPCC to job performance and other situations of the career graduates. More than 40 percent of the respondents indicated that education at CPCC led to improved job performance. Nearly 30 percent of respondents answered that their education at CPCC resulted in an increase in salary.

AREA	Percent
Improved performance	40.7
A change in responsibility	23.8
A promotion	11.1
Increase in salary	29.9
Other	19.7

How Do the Career Graduates Rate CPCC General Education Experience In Specified Areas?

The career graduates were asked how much their general education experience at CPCC helped them to acquire fundamental knowledge and skills, essential in dealing with real-life issues. Twenty areas in which CPCC general education has potential influence were spelled out to the graduates. The respondents rated each area using a 3-point scale, with 1 being 'not at all helpful', 2 'somewhat helpful', and 3 'very much helpful'. The responses are summarized below. The areas are arranged in descending order by sample means of the ratings. The average scores of the 20 areas range from 1.78 to 2.44. The areas in which CPCC education helped the graduates most are team work, critical thinking, and getting along with different people, with these three areas receiving means of 2.40 or higher. Compared with the sample means of 2.08 to 2.42 for the transfer graduates, the ratings of many areas by the career graduates are lower, and the ranks of these areas differ (see *Transfer Graduate follow-up Study*).

Helpfulness of CPCC General Education Experience

Rank	AREA	Not at All	Some what	Very Much	No Respon.	Mean
1	Work as a member of a group	7.1%	41.8%	51.0%	24	2.44
2	Develop critical thinking skills	7.7%	43.8%	48.6%	48	2.41
3	Work with different people	8.4%	43.5%	48.1%	16	2.40
4	Be sensitive to impact of tech.	8.9%	45.4%	45.7%	48	2.37
5	Communicate orally	5.0%	56.8%	38.2%	21	2.33
6	Communicate in writing	7.9%	51.4%	40.7%	32	2.33
7	Make decisions about edu./emp.	13.5%	39.7%	46.8%	21	2.33
8	Listen perceptively	8.8%	51.6%	39.6%	43	2.31
9	Understand scient. princip.	14.0%	41.4%	44.6%	47	2.31
10	Aware of value, belief of others	12.4%	44.7%	42.9%	23	2.30
11	Aware of own values, beliefs	14.7%	45.7%	39.6%	20	2.25
12	Read with understanding	13.0%	52.1%	34.8%	31	2.22
13	Use computer	22.3%	34.0%	43.7%	52	2.21
14	Develop my creative skills	16.2%	50.6%	33.2%	27	2.17
15	Apply math concept & skill	21.4%	45.4%	33.2%	24	2.12
16	Understand Ame. culture&society	27.8%	51.3%	20.9%	16	1.93
17	Recognize dependence of world	31.8%	47.9%	20.2%	25	1.88
18	Understand cultures, world	37.3%	45.6%	17.2%	23	1.80
19	Understand own culture	39.5%	42.1%	18.4%	24	1.79
20	Understand other places&times	40.7%	40.9%	18.4%	24	1.78

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How Do the Career Graduates Rate CPCC Instruction and Instruction-Related Areas?

Instruction and instruction-related services and facilities are important areas which directly influence students' educational achievement. The survey listed 15 instructional items and asked the graduates to rate these items on a 5-point scale, with 1 being 'very poor', 2 'poor', 3 'average', 4 'good', and 5 'very good'. All of the items except the last item, course availability, were assigned a good or very good rating by more than 60 percent of the respondents who answered the question. The most outstanding areas are quality of instruction, library facilities and materials, and availability of instructors. These areas received an average score 4.20 or better.

Ratings of CPCC instructional items

Instruc.item	Percent 1	2	3	4	# 5	Mean 6
1 Quality of instruction	2.0	15.1	35.4	47.4	11	4.28
2 Library facilities	1.8	14.3	43.3	40.6	26	4.23
3 Library materials	1.5	17.1	38.6	42.8	27	4.23
4 Availability of instructors	2.9	15.7	39.4	42.0	11	4.20
5 Library hours	1.5	18.2	42.6	37.7	32	4.16
6 Content in in major courses	3.3	16.3	41.1	39.3	23	4.16
7 Helpfulness of staff	3.8	18.3	39.7	38.3	16	4.12
8 Content in general courses	0.9	23.6	46.2	29.2	43	4.04
9 Assistance in the library	4.7	22.3	41.7	31.3	42	3.99
10 Lab/shop facilities	6.7	25.7	38.8	28.7	34	3.89
11 Classroom facilities	4.3	30.0	42.9	22.8	14	3.84
12 Helpfulness of administrators	7.8	27.1	39.7	25.4	66	3.82
13 Lab/shop equipment	7.4	28.3	40.1	24.2	39	3.80
14 Course availability	13.8	30.3	36.0	19.9	14	3.60

Note: Column headings are defined as: 1=poor or very poor, 2=average, 3=good, 4=very good, 5=number of no responses, and 6=sample mean score.

How Do the Career Graduates Rate CPCC Services?

Besides instruction-related areas, other college service/facility areas may impact graduates' experience and success at CPCC. The following table presents the survey results of specified areas, arranged in descending order by sample means. All of the listed areas except for parking are considered to be good or very good by more than one half of the career graduates. All these areas received an average score of 3.50 or better, except the last 5 areas. Parking received the lowest mean score of 2.86. Notably, many graduates did not use some of these services or did not respond to the questions. In general, the more students used the services, the more reliable the sample average scores.

Ratings of CPCC services

AREA	Percent 1	2	3	4	# 5	Mean 6
Services for disabled	0.7	26.7	41.3	31.3	211	4.03
Placement & testing center	4.2	30.5	44.2	21.0	33	3.81
Instruct-ional TV	2.8	35.0	41.3	21.0	218	3.79
Advising by faculty	11.6	28.4	27.8	32.1	34	3.78
Welcome info.& center	5.8	32.2	40.5	21.5	35	3.76
Admissions	6.7	32.8	40.1	20.3	17	3.72
Graduation services	7.9	30.7	40.1	21.3	94	3.72
Veterans services	1.2	45.9	32.9	20.0	276	3.71
Records & transcripts	10.8	29.9	37.0	22.3	20	3.68
Counseling	11.2	33.3	29.8	25.7	46	3.67
Registration	10.9	31.3	33.9	23.9	13	3.67
Co-op services	13.1	28.1	34.6	24.2	208	3.65
Academic tutoring	7.0	38.6	37.8	16.5	234	3.61
Business office/cashier	8.3	39.9	34.7	17.2	70	3.59
Bookstore	8.6	36.9	39.2	15.3	14	3.59
Financial aid	17.5	30.6	30.6	21.3	201	3.54
Security services	9.7	43.0	31.8	15.4	75	3.50
College activities	7.4	41.0	36.7	11.2	173	3.44
College stud. organizations	13.0	41.3	33.7	12.0	177	3.40
Food services	13.7	46.0	30.9	9.3	70	3.33
Employment services	24.2	33.9	26.9	15.1	175	3.27
Parking	34.9	35.5	24.6	5.0	20	2.86

Note: Column headings are defined as: 1=poor or very poor, 2=average, 3=good, 4=very good, 5=number of no responses, and 6=sample mean score.

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What Are the Most/Least Helpful Curriculum Program Courses?

In the survey the graduates were asked to list the most helpful and least helpful curriculum program courses. About thirty career graduates appreciated all courses they took. Many other graduates indicated all courses in their major areas were the most helpful. Many career graduates also listed the least helpful curriculum courses. An exhaustive list of the most helpful and least helpful courses will be sent to deans and department heads.

Which Areas Do Graduates like best/lest? What Are the Most Important Areas Needing Improvement?

Graduate opinions were also gathered about the instruction and service areas they liked best and least and about the most important areas needing improvement at CPCC. The area the graduates liked best is instructors--at least 10 percent of career graduates specifically indicated that instructors were the best part of CPCC. On the other hand, parking appeared in the survey as the least favorable area. Course availability had the highest frequency in the list of the most important things to be improved. However, none of the respondents saw parking as an important area to be improved. A complete list of areas the graduates liked best or least, and a list of the most important areas for improvement at CPCC will be sent to deans and department heads.

Are the Career Graduates Satisfied With the CPCC Preparation for Jobs?

Graduate satisfaction with CPCC job preparation reflects not only the efforts made by the College and the individual graduates but also the situation of job market. Although CPCC is unable to change the job market, the College can make internal adjustments to changes in job market and community needs. The survey respondents generally provided positive answers to the question--of the 283 graduates who responded to this question, 74.6 percent (42.8%+31.6%) stated that they were satisfied or very satisfied with CPCC preparation for their jobs. Using a 5-point scale with 1 being 'very unsatisfied' and 5 being 'very satisfied' (no response is not included), the sample mean is 3.77.

Satisf. w/ preparation	Percent
Very Unsatisfied	4.6
Unsatisfied	3.9
Somewhat Satisfied	17.0
Satisfied	42.8
Very Satisfied	31.8
Average Satisfaction	3.77

Are the Career Graduates Satisfied with the CPCC Career Program Overall?

CPCC programs may offer students more than just career preparation. Thus, a more comprehensive measure is graduate satisfaction with their programs overall. To evaluate how CPCC career programs met student needs, the survey asked about career graduates' satisfaction with their academic programs overall. This question received favorable answers from the graduates--82.3 percent of the graduates are satisfied or very satisfied with their CPCC programs, and the sample mean is 4.09.

Satisf. w/ program	Percent
Very Unsatisfied	2.3
Unsatisfied	2.6
Somewhat Satisfied	12.8
Satisfied	48.1
Very Satisfied	34.2
Average Satisfaction	4.09

What Is the Overall Satisfaction of the Career Graduates With CPCC?

The final and the most aggregated measure of graduate opinion is graduate overall satisfaction with CPCC, using the same 5-point satisfaction scale. A respondent tends to weight all relevant factors to come up with a combined score. The survey results indicate that 88.3 percent of the career graduates are satisfied or very satisfied with the College.

Overall Satisf. w/ CPCC	Percent
Very Unsatisfied	2.0
Unsatisfied	1.2
Somewhat Satisfied	8.4
Satisfied	48.8
Very Satisfied	39.5
Average Satisfaction	4.23

Notably, the responses to the three satisfaction questions -- (1) satisfaction with CPCC preparation for job, (2) satisfaction with CPCC academic programs, and (3) overall satisfaction with CPCC -- show an interesting pattern: the group of satisfied or very satisfied students gets bigger and bigger (3.77 vs. 4.09 vs. 4.23) when the question is asked in a broader and broader scale. This finding is very consistent with that from the transfer graduate study (see *Transfer Graduate Follow-up Study, 1991-92 & 1992-93*), and suggests that in addition to job preparation, CPCC provides other qualifications that the graduates value.

Would the Graduates Recommend CPCC to Friends?

Graduates would logically recommend to their friends the school they attended if they feel the school provides quality education they need at a reasonable cost. The vast majority (92.9%) of the survey respondents expressed that they would recommend CPCC to their friends if a two-year college meets the needs of their friends. None of the graduates gave a negative response. The statistics confirm the reliability of survey results regarding satisfaction with CPCC. The statistics also imply the potential importance of the graduates as a marketing force for the College.

Recommend CP to friends	Percent
Yes	92.9
Yes, With Reservation	7.1
No	0.0

4. Comparison of Current Student Opinion and Career Graduate Opinion

Individual areas of services and facilities may experience changes in quality over time, and different groups of students may have different opinions about these areas. To examine the probable changes and the different perceptions, this study makes a comparison of survey results from 1993's *Current Student Opinion Study*, 1991's *Graduate Follow-up Study*, and 1994's *Career Graduate Follow-up Study*. The common areas and their sample means are listed below. A short broken line indicates this area was not surveyed in that study.

Comparison of Student Opinions
(Sample Means)

AREA	89-90 Grad. Stud.	91-92& 92-93 Career	92-93 Curr. Stud.
Quality of instruction	4.30	4.28	3.93
Library facilities	4.40	4.23	4.03
Library materials	4.40	4.23	3.90
Availability of instructors	----	4.20	3.68
Helpfulness of Staff	----	4.12	3.74
Lab/shop facilities	3.90	3.89	3.61
Classroom facilities	4.00	3.84	3.62
Course availability	3.90	3.60	3.44
Services for disabled stud.	4.40	4.03	3.08
Placement testing & testing cntr.	4.10	3.81	3.31
Advising by faculty	4.20	3.78	3.28
Welcome and info. center	----	3.76	3.29
Admissions	4.10	3.72	3.43
Counseling	3.80	3.67	3.28
Veterans services	----	3.71	2.41
Records and transcripts	4.00	3.68	3.26
Registration	3.90	3.67	3.54
Co-op services	3.70	3.65	2.95
Business off./cashier	4.10	3.59	3.19
Parking	2.60	2.86	2.74
Food services	3.20	3.33	2.90
Bookstore	3.60	3.59	3.52
Financial aid	3.90	3.54	3.00

A one-by-one comparison of the sample means indicates that the graduates always assign these areas higher scores than do current students. The difference between the 1993 current student rating and the 1990-91 graduate rating varies from 0.08 for bookstore to 1.32 for services for disabled students; and the difference between the 1993 current student rating and the 1991-93 career graduate rating ranges from 0.07 for bookstore and 1.30 for veterans

service. Recent career graduates rate most areas lower than earlier (i.e., 1990-91) graduates do, with the exception that parking and food services received slightly higher scores from the recent graduates. Because the three surveys were conducted at different times and the three groups may have different personal backgrounds and experiences, the observed differences can result either from the changes in quality of the areas or from the different standards the three groups implicitly used to rate the areas.

5. Determinants of Career Graduate Overall Satisfaction with CPCC

The overall quality of a college is an important composite measure of the institution and is determined by the quality of many smaller areas, such as services and facilities. However, not all areas contribute to the overall quality equally; therefore, it is essential to see the relationship between the overall quality of the College and all of the individual areas. Such knowledge could drive enhancement of overall quality in a low cost, high impact manner.

In the *Current Student Opinion Study, 1992-93*, a conceptual framework and a statistical model were established to investigate the relationship between the overall quality of the College and the many smaller areas of services and facilities. The findings indicate that availability of instructors, classroom facilities, quality of admissions, and helpfulness of staff are the most significant contributors to overall quality. Further studies in this area can accumulate knowledge about the relationship between quality of each area and overall quality of the College.

This study treats student satisfaction with the overall quality of CPCC as a proxy measure of the quality of CPCC, and the student opinion of each area of facilities and services as a surrogate of the quality of the individual area. The relationship estimated is one between student satisfaction with each area of the College and student satisfaction with CPCC overall. All respondents, career and transfer graduates, are included to obtain a more reliable estimate.

After controlling for graduates' demographic background, employment experience, and other factors, the estimates of a multivariate statistical model identified the following five areas of services or facilities that are closely related to overall quality of the institution (the multiple regression estimates are presented in the complete research report).

- Availability of instructors
- Course content in major program
- Counseling
- Business services / cashier
- Food services

The empirical estimates reveal that the 1991-92 and 1992-93 graduates share similar opinions with 1993 current students in some areas. However, the estimates also show that several other services or facilities which 1993 current students connected strongly with the overall quality of CPCC are not considered as important contributors to the overall quality of the College by the graduates.

Among all significant contributors, availability of instructors and course content are by far the most important factors contributing to the graduates' overall satisfaction with CPCC, with the largest magnitudes of estimated influence on the overall satisfaction and the highest level of statistical confidence. The estimates suggest that, other things being equal, a one point increase in the availability of instructors in a 5-point scale would lead to a 0.1433 point improvement in the perception of overall quality of the College, and a one point improvement on major course content would upgrade the perception of overall quality of CPCC by 0.1343 points. In the reverse direction, however, a one point decrease in the availability of instructors or in course content could result in a deterioration in the perception of overall quality of the College by the same amount as the estimates.

Other statistically significant areas are quality of counseling, business service/cashier, and food services. A one point increase in each of these three areas on a 5-point scale is estimated to lead to 0.0964, 0.0889, and 0.1051 point increases in satisfaction with the overall quality of CPCC respectively.

The most significant and consistent finding from both the *Current Student Opinion Study* and *Graduate Follow-up Study* is the contribution of instructors to the overall quality of the College. In both studies, talking to or availability of instructors is the number one contributor to the perception of overall quality of the institution. Among all instructional areas, items related to instructors always receive top mean scores. Compared with anything else listed in the studies, CPCC instructors are the most valuable assets of the institution. Any means the College takes to help instructors function more effectively will almost certainly boost the overall quality of the College.

Although many other service or facility areas may contribute to the overall quality of the institution, further studies are needed to determine the relationship between these areas and the perception of overall quality of the College. This *Graduate Follow-up Study*, coupled with *Current Student Opinion Study*, has provided preliminary findings. The estimates from these studies can serve as starting point for the future research.

6. Summary and Conclusion

This career graduate follow-up study surveyed 1991-92 and 1992-93 career graduates and analyzed their achievement and their satisfaction with CPCC. The findings provide first-hand information which may be used to evaluate each area of the College and to support consideration of improvement in identified crucial areas.

Academic Performance

- CPCC career graduates' academic performance at CPCC is reasonably good -- 75.3 percent of the graduates earned GPAs from 3 to 4; 85.9 percent of the graduates reached their self-declared goals and 10.6 percent partly reached their goals when they graduated from CPCC.

Employment Achievement

- The career graduates show notable achievement in their employment -- 87.1 percent are employed full time; 57.9 percent hold jobs that require education at community college level; 55.3 percent of the graduates' jobs are directly related to their CPCC programs and another 27.2 percent partly related to CPCC programs; the graduates are paid reasonably well, with a median of $20,000-$24,999; and 64.7 percent of the graduates are satisfied or very satisfied with their jobs.
- CPCC education helped the career graduates find jobs and improve job performance -- 88.6 percent of the graduates found jobs when they were attending or after leaving CPCC; after receiving education at CPCC, 40.7 percent of the graduates improved job performance, 23.8 percent experienced a change in responsibility, 11.1 percent got a promotion, and 29.9 percent earned a higher salary.

Graduate Opinions of CPCC

- A large proportion of the career graduates appreciate CPCC education in helping them acquire knowledge and skills to deal with various issues in the real world -- team work, critical thinking, and sensitivity to technology received the highest ratings.
- The career graduates gave all instructional areas relatively high scores, ranging from 3.60 to 4.28 on a 5-point scale. The top ranked areas include quality of instruction, library facilities and materials, availability of instructors, course content, and helpfulness of staff.
- More than one half of the career graduates considered several CPCC service areas good or very good. These areas include placement testing and

testing center, academic advising by faculty, welcome center, admissions, records/ transcripts, registration, and bookstore; a significant portion of the graduates did not use many other services.

- The vast majority of the career graduates are satisfied with CPCC -- 74.6 percent are satisfied or very satisfied with preparation for job, 82.3 percent are satisfied or very satisfied with CPCC career programs, and 88.3 percent are satisfied or very satisfied with CPCC overall. These statistics suggest that CPCC provides students with more than just job training. As a further indicator of graduates' satisfaction, 92.9 percent of the career graduates would recommend CPCC to their friends.
- Compared with the 1992-93 current curriculum students and the 1989-90 graduates, the 1991-92 and the 1992-93 career graduates assign a higher score to each service/facility area. Areas which receive relatively high scores from one group, graduates or current students, also receive relatively high scores from other groups, therefore, the rank of these areas is fairly stable across all groups. Quality of instruction and availability/help of instructors always receive the top ratings.

Important Factors Determining Graduate Perception of Overall Quality of the College

- Controlling for several demographic and background variables, the relationship between each area and overall quality is estimated. Availability of instructors and major course content are found to be the most important factors influencing the perception of overall quality of the College; quality of counseling, business office/cashier, and food services are also related to the graduates' overall satisfaction with CPCC.
- Parking received the lowest score from the most graduates and current students, but both *Graduate Follow-up Study* and *Current Student Opinion Study* estimated that parking is not related to student overall satisfaction with CPCC; no respondent considered parking to be an important area needing improvement at CPCC.